Project 4R's Proposal

Summary of Project

Technology is ever increasing in importance. Wherever you look, technology has obviously or subtly had a hand in the improvement of the object or activity. We must put technology into the hands of the students. Not as a separate activity, but as a way to learn our challenging state standards, to reflect about the curiosities of learning and to ultimately create connections among academic disciplines.

The learning needs at our school vary tremendously. We had the distinction of having the lowest Reading Recovery students in our three-corporation area to being in the top 25% of the state in ISTEP scores. We propose to bring in two outside evaluators, knowledgeable in software and student learning, to assess our specific needs. The team will begin with a written needs assessment of the teachers followed by an individual interview with each teacher. The focus of the evaluation will be twofold: What are the reading, writing and math learning goals for our students? How are students currently learning the approved reading, writing and math curriculum? Today, our computers are used as an extra "class" in which some learning is taking place through educational games. We are not using computers as a tool to teach, to learn and to create knowledge.

Based on the results of our needs assessment, the consultants will search for software that incorporates technology as a tool, moves student learning forward, and flexibly and meets the needs of our students. Several titles will be recommended and tried by the staff. Based on the staff's reaction to the software, one or more titles will be selected for purchase and installation. When installation is completed, staff development begins. A mandatory initial training will be held on site with critical follow-up training scheduled several months later. The training will focus not only on how to use the software, but how to make it an accessible vehicle for student learning.

The objective of this project is to assure that students use computers as an integral part of their learning process. Instilling confidence through actively interacting with technology will endow students with the tools to be life-long learners. They will be prepared to successfully participate in a society where knowledge is multiplying at an alarming rate. They will know how to search for the information they need to accomplish the, currently unknown, tasks ahead of them. Technology is not a product to be learned but a "network" to support life's journey.

Specific activities are as yet unknown. However, students will use technology. When technology becomes integrated into reading, writing and math in the primary grades, students will constantly fill the seats at classroom computer stations. They will rotate through computer stations as determined by the teacher to best meet their learning styles and learning needs. Some students will practice previously taught skills while others will be challenged by thought provoking activities that reinforce a state standard. The keys to the success will be the software selection and the training received by the teachers. Accountability of student teaming will also contribute to the success of this project.

The evaluation of the goals will have several components:

- The original needs assessment will be readministered to teachers to determine if there is an increased comfort level with integrating computers into the curriculum.
- The original needs assessment will be readministerd to teachers to determine if they have increased the amount of time that they integrate computers into the curriculum.
- Students will be asked to indicate how much time they spent weekly using computers during the 2000-01 school year. This will be a longitudinal comparison over the next 5 years to determine how much time students spend using computers during each of the subsequent five years.
- Parents will be asked to comment on their perceptions of how computers are being used in the schools. This will be tracked for 5 years.
- ISTEP scores will be compared from before and after this grant's implementation.

Needs Assessment

Students are reading, writing and thinking mathematically in all our kindergarten and first grade classes. The variety of levels presented by the students is staggering. A few at this late date in the school do not recognize some letters while others are easily reading chapter books.

Our current reading programs lack a strong phonics component. The other difficulty in reading, writing and math is individualizing and maintaining records for every child. Even if the technology were in place, our very experienced teaching staff (who never touched a computer in college) would be painfully inept at maximizing the true potential.

The professional development needs for our staff vary as greatly as our students' learning needs. A few of our teachers are comfortable and fluent with computers. Others have a difficult time accessing their e-mail. A few teachers are begging for more technology. Given hardware, they would be flying with their students. However, I fear the majority is reluctant to turn on their computers because that is just one more thing to teach. They have not been taught themselves, they have not experienced technology in their lives, nor have they had the pleasure of discovering how technology can support life-long learning.

To enhance the reading, writing and mathematics programs in our building, we need additional computers, electrical work and wiring. Further, appropriate software is essential. We currently have some really good software, but it is not being utilized to its full potential. The aforementioned items along with quality staff development during the school day is the only way all students will be positively impacted by this grant.

To accomplish our goals we would like to see a cluster of four computers in each classroom. Each computer will be wired to the Internet and have access to all the school's software. It must be in daily working order. The biggest frustration we have is planning a lesson, taking the class to the computer lab and discovering that the hardware is not working properly. It certainly makes a teacher think twice before planning to include technology in an activity. Our computer lab serves its purpose. We are ready to also have technology at our fingertips in each classroom.

Project Goals and Objectives

Goals:
- Students in kindergarten and first grades will improve their reading, writing and math skills as more computer technology is integrated into the curriculum.
- Teachers will integrate more technology into their teaching.
- Technology will be readily available as needed and will be in working order.

Objectives:
Through technology students will:
- be exposed to the differences between words and letters. All kindergartners will show proficiency by the end of kindergarten.
- Students will use spelling that is close to the correct spelling. All kindergartners and first graders will write routinely and try invented spelling rather than ask the teacher for the correct spelling.
- write sentences, stories, descriptions and captions for drawings. Students will correctly write sentences used in descriptions and captions for drawings.
- read a short sentence on the computer and act out what it says. Sentences will be appropriately leveled for the students and they will act out the sentence correctly 80% of the time.
- illustrate a number problem on the computer. Students will successfully illustrate the given problem 80% of the time.
- ponder and react to creative and critical thinking math problems. Given appropriately leveled math problems, students will respond correctly 80% of the time.

One of our PBA goals (which will shift to PL221) is to increase our use and efficiency of technology. To accomplish this, we need help.

Methods and Activities
Overall as a staff, we do not possess the knowledge or expertise to develop anything that incorporates the amount of technology we want for our students. We need professional help! We have created many outstanding interdisciplinary units, but fall far short of making the units the best they can be because we are so lacking in our knowledge of available software and how to optimally incorporate the software as a learning tool. The software we select must meet the needs of our slow learners and our accelerated learners. Our ESL students, ADHD students, and the average learner must all benefit from software. Our students are hungry for more computer interaction.
One kindergarten teacher has used email to communicate with families. Holiday wishes, cards and thank yous are regularly sent. As the teacher is typing the message, the students look over her shoulder and they discover the typos we all make when quickly using e-mail. Word processing programs automatically correct many errors so they are not useable as a vehicle for children to find and correct errors.
To grow our software library we want to assure that the pieces will support the research done by Koxma and Johnston (http://horizon.unc.edu/projects/monograph/CD/Instructional_Technology/Frayer.asp). They have conceptualized seven ways in which technology can support learning:
- Enabling active engagement in construction of knowledge
- Making available real-world situations
- Providing representations in multiple modalities (e.g. 3-D, auditory, graphic, text)
- Drilling students on basic concepts to reach mastery
- Facilitating collaborative activity among students
- Learning to use the tools of scholarship
- Simulating laboratory work.
Additionally, any software purchased, will be evaluated on the following criteria:
- Can students be actively engaged in learning leading to greater time on task and greater depth of knowledge
- Can student learning emphasize continuous improvement of a piece of work
- Can students receive more practice with feedback
- Will teaming materials match a variety of learning styles
- Is self-paced learning possible
- Can classroom dialogue be extended beyond the time and space constraints of class time
- Can student learn by working on complex, open-ended realistic tasks
- Will this cause the faculty to restructure their role

- Will the faculty rethink and find this to be an energizing and regenerative process?

Once the appropriate software is in place and we are trained effectively, the teachers will take their outstanding lessons and begin to integrate the software into what they are already teaching. These early small steps will give teachers the confidence to invent new and innovative lessons covering the state standards that automatically infuse technology. Our goal is to fully integrate technology. Eventually, teachers will not think separately about how technology can be put into a lesson, but their skill and experience level will allow them to select from their many technological tools the best to use for a particular lesson.

Professional

The blind unsuccessfully lead the blind on new mountain paths. We must have reputable, successful teachers to teach our teachers about integrating technology into our curriculum. We will find and hire an outstanding consultant to help us determine our needs, assist us in selecting appropriate software, teach us the best ways to use the software and return after we have implemented the integration. Upon the return of the consultant, we will reflect on what was successful, what needs to be improved and how we can even better utilize the software in the future. Our goal is to purchase quality software, receive quality training and create lessons that engage students in learning.

We must have a generative method of training (http://www.fno.org/mar01/howlearn.thml) to assure that teachers' behaviors and daily practice will be changed for the better as a consequence of the professional development experience. This grant is about using new tools to help students master the k-1 state standards so they are able to learn the key concepts and skills embedded in the science, social studies, art and other curriculum standards. It is not so much about powerpointing, spreadsheeting or word processing. The focus is on teaching and learning strategies that make a difference in daily practice-on activities translating into stronger student performance. As a result of these practices and the use of these new tools, students should long term be able to:
- Read, reason and write more powerfully
- Communicate productively with members of a global community
- Conduct thoughtful research into the important questions, choices and issues of their times
- Make sense of a confusing world and swelling tide of information
- Perform well on new, more demanding state tests requiring inferential reasoning.

The old training model relied on teaching the skills to operate the software. Instead, we must support our teachers as adult learners and assist them on a personal journey of growth and discovery that is engaging. Teachers must be convinced of the value of the new activities and then given ample time to work on teams to invent effective lessons (http://www.fno.org/mar01/howlearn.thml)

Our staff development begins with a needs assessment by a consultant knowledgeable in student learning, computers, software and classroom teaching. Assessment results will drive the software selection followed by on-site training of the teachers. Teachers will use the software with children. The consultant will return to our school and follow-up the original training with debriefing and further training. We will invite the consultant back as many times as it takes to help the teachers achieve systemic change in their thinking about technology.

To further enhance the change, teachers will be released at least one half day to meet with a small group to cooperatively write lessons. This could be by grade level or across grade levels depending on the student learning needs. Short weekly meetings will be scheduled the remainder of the year at which time the small groups of teachers will meet and discuss technology difficulties and successes with their group.

Technology coaches and mentors will emerge from among our teachers. We will foster their growth and encourage their role as leaders in technology.

We will explore online professional development programs with providers such as Apex Learning, Classroom Connect's Connected University and Teacher Universe. An effective program requires the skillful orchestration all of these program elements to achieve the kind of synergy that leads to major transformations and shifts in practice.

Formative and Summative Evaluation
Formative:

Are children learning more? Are children more engaged in learning? Are children doing more creative, critical and open-ended thinking?
- Software can easily track the academic progress of each child. A baseline then benchmark dates along the way will allow us to know if children are learning more. Also the ISTEP scores can be compared from year to year.
- Student perceptions of how much they are learning can tap how engaged students are in the learning process. An end of the year survey can illustrate if students feel they are learning new things and how engaged they felt in the learning process.
- The above student survey will include questions about how much a student had to think during the school year.

Summative:
Our small group weekly meetings will provide valuable feedback about how our technology is working. Reflecting with colleagues will encourage small changes and encourage small risks to be taken. Teachers will share feedback and suggestions continuously. These meetings will also focus on implementation: What has been and is being accomplished? On evaluation: How can it be improved? And revision: What is our next step?

Our goals of using more technology and always having the equipment in working order will also be incorporated into the small group weekly meetings. Our technician will attend the meetings and participate in the communication necessary for a successful program.

"Technology works in a school not because test scores increase, but because technology empowers new solutions." (www.ncrel.org)

4R's Budget
Proposed Expenditures for 4R's
June 1, 2001 through May 30, 2002

Funding Uses	4R's Project Funding	Local Funding Estimated expenditures from June 1, 2001 through May 30, 2002	Identify Sources of Local Funding
100 Professional Development: subs/stipends (May not include salaries)	$	$20,000	Source:
300 Professional Development: Travel conferences, visitations, training	$	$	Source:
300 Professional Development: Contracted Services consultants / external trainers	$ 5,000	$	Source:
300 Equipment Maintenance	$	$ 5,000	Source:
300 Telecommunications: Internet Other telcom services	$	$	Source:
400 Software	$5,000	$1,000	Source:
500 Hardware computers in classrooms scanners, digital cameras etc.	$10,000 computers	$10,000 computers $ 5,000 electric $ 1,000 wiring	Source:
Other (Specify)	$	$	Source:
Total Local Share (Must include local funding [C20-10.1-25.1])	$	$34,000	Source:
Total State Share ($4,400 per K-1 Classroom max)	$20,000	$	Source:
Totals	$20,0000	$34,000	Source: